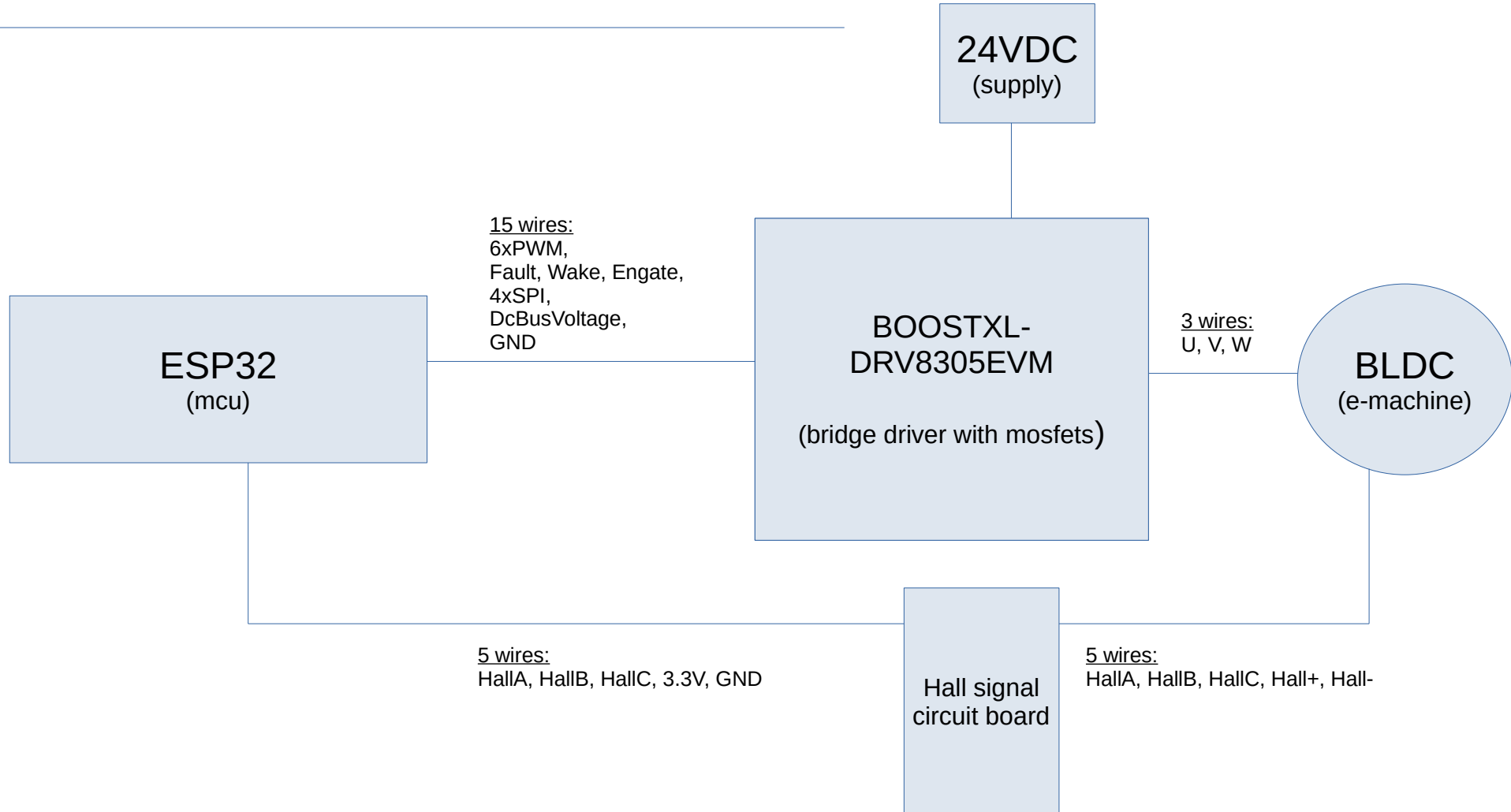


HW overview



SW overview – part 1

Task1ms:

- MeasDcBusVoltage
- PidControl

Task10ms:

- UartSend
- UartReceive

Task100ms:

- SpiSendReceive

Core0

- Task1ms
- Task10ms
- Task100ms

Core1

- Main loop()
- isr callback()

SW overview – part 2

MeasDcBusVoltage:

ADC measurement of dc bus voltage. Convert to physical value. Check if within valid range (22V-25V), in case out of range switch to state error.

PidControl:

Controls the duty cycle of pwm signals to reach desired rpm

UartSend:

Sends following data via uart: state(idle, run, error), dc bus voltage, current rpm, current duty cycle, status register DRV8305

UartReceive:

Receives following commands via uart: „1“ (start motor), „4“ (stop motor), „n=xxxx“ (desired rpm in range 1000-5000)

SpiSendReceive:

Checks status register of DRV8305